

This chapter describes the potential environmental effects, or impacts, of Tucson Electric Power Company (TEP) constructing the proposed project in one of its three proposed transmission corridors, and also describes the No Action Alternative. The Council on Environmental Quality's (CEQ's) regulations require that an Environmental Impact Statement (EIS) contain a description of the environmental effects (both positive and negative) of the proposed alternatives. CEQ's regulations (40 CFR 1508.8) distinguish between direct and indirect effects. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are reasonably foreseeable effects caused by the action that occur later in time or farther in distance. Both direct and indirect effects are addressed in this chapter.

CEQ's regulations also require that an EIS contain a description of the cumulative impacts (40 CFR 1508.7) of the proposed alternatives. CEQ's regulations define cumulative impacts as those that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts are addressed in Chapter 5 of this Draft EIS.

This chapter presents information on the potential environmental effects on land use and recreation, visual resources, biological resources, cultural resources, socioeconomics, geology and soils, water resources, air quality, noise, human health and environment, infrastructure, transportation, and minority and low-income populations.

4.1 LAND USE AND RECREATION

This section discusses the potential effects of the proposed project on land use and recreation in the project vicinity. The methodology for determining impacts is presented, along with a description of the impacts for each alternative.

4.1.1 Land Use

Methodology

The land use resource impact analysis consists of an evaluation of the effects caused by the construction and operation of the proposed alternatives on specific land use resources and recreational resources within the vicinity of the project. Impacts to land use are determined relative to the context of the affected environment for each alternative described in Section 3.1.

To determine if an action may cause a significant impact, both the land area displaced by the transmission line right-of-way (ROW) and the compatibility of transmission line ROW with land use plans are considered. Land use impacts associated with construction of new access roads and improvement to existing roads are described in Section 4.12, Transportation. The context for the project is the area along each corridor from Sahuarita to Nogales, continuing south to the international border. Special consideration is given to any unique characteristics of the area (for example, recreational opportunities or resource conservation zones), and the degree to which the project may adversely affect such unique resources. The land use evaluation includes both temporary land use impacts during construction and permanent changes to land use resources.

Impacts Common to the Western, Central and Crossover Corridors

The following discussion of potential land use impacts applies to all three proposed corridors. Information specific to the Western, Central, and Crossover Corridors is described separately following the general discussion.

The existing TEP South Substation in Sahuarita, located as shown in Figure 1.1–4, would be upgraded and expanded approximately 100 ft (30 m) beyond the existing fenceline, impacting an area of an estimated 1.3 acres (0.53 ha). A new Gateway Substation, with a total graded area of approximately 18 acres (7.3 ha) would be constructed west of Nogales, Arizona, located as shown in Figure 1.1–4. For the Gateway and South Substations, the equipment area would be fenced with a locked gate, and the area outside the fence would be revegetated with native plants following construction. The existing gravel parking area at the South Substation, and a new gravel parking area at the Gateway Substation, would serve as the construction staging areas (TEP 2001). In addition, one estimated 0.5-acre (0.2-ha) fiber-optic regeneration site would be required, which would be placed on private land in the area of Township 18 South, Range 12 East, approximately 10 mi (16 km) southwest of Sahuarita, for any proposed corridor. A temporary construction laydown yard of approximately 80 acres (32 ha) would be sited near the Arivaca Road and Interstate 19 (I-19) interchange on previously disturbed land, and three temporary 3-acre (1.2-ha) staging areas would also be required, as described in Section 2.2.3, Transmission Line Construction. Temporary line tensioning and pulling sites ranging from 0.5 to 1.5 acres (0.2 to 0.6 ha) would also be required along the corridor, as described in Sections 2.1.1 through 2.1.3 for each corridor.

The proposed project would utilize primarily self-weathering steel tubular monopoles, depicted in Figure 1.1–1. Dulled, galvanized steel lattice tower structures, depicted in Figure 1.1–2, would be used in specified locations for engineering reasons of to minimize overall environmental impacts (for example, to soils or potential archeological sites), in accordance with Arizona Corporation Commission (ACC) Decision No. 64356 (ACC 2002) (as explained in Section 2.2.3). Monopoles occupy less acreage at the foundation than lattice towers. However, the typical span between lattice tower structures is 1,000 to 1,200 ft (305 to 355 m), compared to 800 to 900 ft (244 to 275 m) between monopoles, thus requiring fewer lattice tower structures to support a given distance of transmission line route. For the proposed project, the distance between transmission line structures would be between 600 and 1,200 ft (183 and 366 m), with spans generally shorter at the substations and interconnection points. Three slight variations of the monopole (the tangent structure, the turning structure, and the dead-end structure) that are visually very similar to the monopole in Figure 1.1–1 would be used at various points along the route based on the turning angle of the transmission line and the elevation change between towers. Likewise, a slight variation of the lattice tower structure (the turning structure) that is visually similar to Figure 1.1–2 would be used at various points along the corridor.

The final footprint of each monopole is 25 ft² (2.3 m²); the final footprint of each lattice tower is approximately 3,600 ft² (334 m²). The tower construction site required for each monopole is an approximately 100 ft (30 m)-radius circle, and for each lattice structure is a 200 by 400 ft (61 by 122 m) area, more than double the construction area required for monopoles. Assuming that primarily monopoles are used, the approximate number of structures and land displaced by structures and structure construction sites has been estimated for each proposed corridor. These estimates, listed in Table 4.1–1, are broken down to distinguish land use impacts on the Coronado National Forest and Federal lands managed by the Bureau of Land Management (BLM) separately, and are described in the text for each corridor. The area to be disturbed by access roads, transmission line tensioning and pulling sites, fiber-optic splicing sites, and laydown yards is addressed separately in Section 4.12, Transportation, and is not reflected in the structure site disturbance estimates in Table 4.1–1.

Table 4.1–1. Approximate Structure Land Use.^a

	Number of Structures	Structure Construction Site Area (acres)	Final Structure Footprint Area (acres)
For Entire Corridor			
Western Corridor	429	309	0.25
Central Corridor	373	269	0.21
Crossover Corridor	431	311	0.25
On the Coronado National Forest			
Western Corridor	191	138	0.11
Central Corridor	102	74	0.06
Crossover Corridor	196	141	0.11
On BLM Land			
Western, Central, and Crossover Corridors	8	5	0.004

^a Land use area does not include structure access roads. See Section 4.12, Transportation.

Northern Portion. Several areas along the common northern area of all three corridors have unique designations in local land use plans. The Pima County Comprehensive Plan (Pima 2003) indicates a Resource Productive Zone intermixed with Low Intensity Rural in the area west of I-19 near Sahuarita. Resource Productive Zones designate cultivated ranching and mining lands for their productive capabilities. Approximately 6 mi (10 km) north of Arivaca Road, the corridors cross a Resource Conservation Zone designed to protect open land space for environmental quality, public safety, recreation, and cultural heritage. Given the limited area of land to be used by the proposed project, the proposed project would not be expected to interfere with these unique land uses.

The proposed corridors do not cross any Indian reservations or lands reserved under treaty rights by Native American nations, tribes, or communities. The San Xavier District of the Tohono O’Odham Nation is located approximately 1 mi (1.6 km) north of the proposed corridors as they exit the South Substation.

The BLM lands crossed by the proposed project are designated as disposal land under the current Resource Management Plan. The land crossed by the proposed project would need to be redesignated to a utility corridor as described in Section 1.2.2, Federal Agencies’ Purpose and Need and Authorizing Actions. TEP applied to BLM for ROW rights on an estimated 19 acres (7.7 ha) of land. This ROW would run immediately adjacent and parallel to existing transmission lines as described in Section 3.11, Infrastructure.

Coronado National Forest. TEP has not finalized the precise placement of the 125-ft (38-m) ROW within the 0.25 mi (0.40 km)-wide study corridors. These sitings would involve input from cultural, biological, and visual specialists, after each agency has issued a Record of Decision (ROD), to identify and minimize impacts to each area of land to be disturbed. However, TEP has stipulated that the structure locations, construction areas, and proposed access roads for the Western and Central Corridors would not enter into inventoried roadless areas (IRAs). In addition, TEP has stipulated that the structure locations, construction areas, and proposed access roads for all three corridors would not enter the following specially designated areas within the Tumacacori Ecosystem Management Area (EMA) (as shown in Figure 3.1–1): Pajarita Wilderness, Chiltipene Botanical Area, and Peña Blanca Lake Recreation Area.

A large portion of the Tumacacori EMA (approximately 164,000 acres [66,400 ha]) is classified by the U.S. Department of Agriculture Forest Service (USFS) as able to support livestock grazing, some of which is currently under permit for livestock grazing. A majority of this capable rangeland is in

satisfactory condition, a measure of the health of the vegetation and soil relative to their combined potential to produce a sound and stable biotic community. Both short-term and long-term effects could occur to livestock grazing from the proposed project. In the short-term, the operations of permittees could be disrupted by construction equipment and activities. In the long-term, the forage base on livestock lands would be reduced by up to an estimated 0.11 acres (0.04 ha) occupied by support structure bases, plus land converted to access roads. New traffic and human use patterns could also cause disturbance to grazing operations.

Nogales Border Area. TEP has committed that it would avoid construction of project structures within the 60 ft (18 m)-wide reserved lands along the U.S.-Mexico border. TEP's proposed project design is for the transmission line to cross the U.S.-Mexico border using monopole structures located at least 400 ft (120 m) away from the U.S.-Mexico border (TEP 2003). Thus, TEP would not construct project structures that could limit access to the international boundary monuments and markers. Section 3.1, Land Use, describes U.S. Border Patrol activities in the vicinity of the U.S.-Mexico border near the proposed project. U.S. Department of Energy (DOE) has contacted the U.S. Border Patrol regarding potential impacts to ongoing activities in the vicinity of the U.S.-Mexico border. A copy of DOE's consultation letter is included in Appendix A; no response has been received as of the printing of this Draft EIS.

In the U.S.-Mexico border area, TEP expects that the transmission line would be strung by helicopter. All construction activities would be coordinated with the appropriate agencies on each side of the border. At a minimum, TEP expects the U.S. Border Patrol to be included. TEP anticipates that this effort would be coordinated with the Mexican proponent for the project, and does not anticipate any ground disturbing activities within the reserved strip of land (a total of 120 ft [36.6 m]) along the international border. The preliminary design of the project has the last U.S. pole on top of a hill and the first pole on the Mexico side also on top of a hill to adequately span the border (TEP 2003).

Impacts to specific land uses within the corridor would be mitigated by the precise siting of the ROW. Since the length of the ROW for this project would not be fenced or otherwise separated from adjacent lands, except as required by land owners and managers, and primarily monopoles would be used, the land area affected by the ROW would be minimized. Access roads, as discussed in Section 4.12, Transportation, would need to be constructed, and certain access roads would remain for ongoing access by TEP. The long-term impacts of access roads would be to increase the acreage of the affected lands, and create the potential for biological impacts, such as the distribution of noxious weeds, and other soil, water, recreation, and visual impacts (URS 2003b), as summarized for each resource area within this EIS.

During construction, temporary impacts to land uses within the ROW may occur due to movement of workers and materials through the area. Construction noise and dust, as well as temporary disruption of traffic flow on local roads, may also temporarily affect residents, recreationalists, and farmers in the area immediately adjacent to the ROW. Coordination among TEP, its contractors, and landowners and managers regarding access to the ROW and construction scheduling would minimize any such disruptions.

4.1.1.1 Western Corridor

For the Western Corridor, there would be an estimated 429 support structures, with 191 of these on the Coronado National Forest, and 8 of these on Federal lands managed by BLM. The total structure construction site area would be approximately 309 acres (125 ha) for the entire Western Corridor, 138 acres (56 ha) on the Coronado National Forest, and 6.5 acres (2.6 ha) on BLM land. The total land area occupied by the final footprint of the structures would be an estimated 0.25 acres (0.1 ha) for the entire Western Corridor, 0.11 acres (0.04 ha) on the Coronado National Forest, and 0.005 acres (0.002 ha) on BLM land.

The section of the Western Corridor that joins the El Paso Natural Gas Company (EPNG) pipeline ROW and exits the Coronado National Forest an estimated 2 mi (3.2 km) to the southeast is within an existing Forest Transportation System and Utilities Corridor. USFS advises that the rest of the Western Corridor on the Coronado National Forest, an estimated 27 mi (43 km), would require a Forest Plan (USFS 1986) amendment in order to implement the alternative. The Western Corridor would not pass through any IRAs.

4.1.1.2 *Central Corridor*

For the Central Corridor, there would be an estimated 373 support structures, with 102 of these on the Coronado National Forest, and 8 of these on Federal lands managed by BLM. The total structure construction site area would be an estimated 269 acres (109 ha) for the entire Central Corridor, 74 acres (30 ha) on the Coronado National Forest, and 6.5 acres (2.6 ha) on BLM land. The total land area occupied by the final footprint of the structures would be an estimated 0.21 acres (0.09 ha) for the entire Central Corridor, 0.06 acres (0.02 ha) on the Coronado National Forest, and 0.005 acres (0.002 ha) on BLM land. Table 4.1–1 shows that the Central Corridor displaces less land than the other alternatives for the transmission line structures.

The Central Corridor is not within an existing Forest Transportation System and Utilities Corridor, where the Central Corridor deviates from the EPNG pipeline ROW to avoid an IRA for approximately 2 mi (3.2 km). USFS advises that a Forest Plan amendment would be needed before the implementation of the alternative.

4.1.1.3 *Crossover Corridor*

For the Crossover Corridor, there would be approximately 431 support structures, with 196 of these on the Coronado National Forest, and 8 of these on Federal lands managed by BLM. The total structure construction site area would be an estimated 311 acres (126 ha) for the entire Crossover Corridor, 141 acres (57 ha) on the Coronado National Forest, and 6.5 acres (2.6 ha) on BLM land. The total land area occupied by the final footprint of the structures would be an estimated 0.25 acres (0.1 ha) for the entire Crossover Corridor, 0.11 acres (0.05 ha) on the Coronado National Forest, and 0.005 acres (0.002 ha) on BLM land.

The Crossover Corridor is not within an existing Forest Transportation System and Utilities Corridor, except where it follows or crosses the EPNG pipeline ROW. USFS advises that the rest of the Crossover Corridor on the Coronado National Forest, an estimated 20 mi (32 km), would require a Forest Plan amendment in order to implement the alternative. The Crossover Corridor would pass through approximately 3 mi (4.8 km) of an IRA in Peck Canyon, as shown in Figure 3.1-1.

4.1.1.4 *No Action Alternative*

Under the No Action Alternative, TEP would not build the proposed transmission lines and the associated facilities as proposed in this EIS. There would be no land use impacts associated with the No Action Alternative. Current land use trends would be expected to continue in accordance with local land use plans.

4.1.2 *Recreation*

The following discussion of impacts to recreational resources applies to all three proposed corridors. A discussion of impacts specific to the Western, Central, and Crossover Corridors on the Coronado National

Forest is presented separately. This allows the USFS Recreation Opportunity Spectrum (ROS) tool for recreation planning and management to be used (USFS 1990).

Impacts to recreation activities in the vicinity of the proposed project outside the Coronado National Forest would be generally similar to impacts to recreation within the Coronado National Forest, as described in the following sections. Activities include hiking, biking, birding, photography, rock climbing, horseback riding and off-highway vehicle use. The Central Corridor crosses recreational trails where it parallels just outside the Coronado National Forest boundary for approximately 7 mi (11 km) east of the Tumacacori Mountains. The primary impact to each of these recreation activities would be a change in the visual setting for areas where the proposed project is visible as described in Section 4.2, and potential biological impacts to birds and other wildlife of interest, as described in Section 4.3.

On national forest land, maintaining a broad spectrum of ROS classes is very important to provide visitors with choices. The ROS includes matrices for each of the seven setting indicators that establish the limits of acceptable change of a given indicator within each ROS class. For example, Table 4.1–2 shows the matrix for one of seven ROS indicator matrices (the one for Visitor Management), which indicates what level of information facilities and regimentation (control) is appropriate for each ROS class for Visitor Management. According to this matrix, in a Semi-Primitive Non-Motorized area, low regimentation is “fully compatible,” subtle on-site regimentation is “normal,” noticeable on-site regimentation is “inconsistent” with the area, and obvious and numerous regimentation is “unacceptable.”

Table 4.1–2. Example of ROS Indicator Matrix for Visitor Management.

	Low Regimentation. No onsite controls or information facilities.	Subtle onsite regimentation and controls. Very limited information facilities.	Onsite regimentation and controls are noticeable but harmonize with the natural environment. Simple information facilities.	Regimentation and controls obvious and numerous but harmonize. More complex information facilities.	Regimentation and controls obvious and numerous. Sophisticated information exhibits.		
Primitive	Norm	Inconsistent	Unacceptable				
Semi-Primitive Non Motorized	Fully Compatible	Norm				Inconsistent	
Semi-Primitive Motorized		Norm				Inconsistent	
Roaded Natural						Norm	Inconsistent
Rural							Norm
Urban			Norm				

Compatibility of Changes in Setting Indicators with ROS Area Classifications

Each setting indicator has a matrix, such as the one shown in Table 4.1–2, that establishes what conditions are fully compatible, normal, inconsistent, or unacceptable within a given ROS area classification. These terms are defined as follows:

- **Fully Compatible or Normal** – conditions that meet or exceed expectations within an ROS area classification.
- **Inconsistent** – conditions that are not generally compatible with the norm, but may be necessary under some circumstances to meet management objectives.
- **Unacceptable** – conditions that, under any circumstance, do not fall within the maintenance of a given class. Where unacceptable conditions are unavoidable, a change in the ROS setting will often result, which must be handled appropriately in the USFS *National Environmental Policy Act* (NEPA) planning process.

In evaluating potential impacts on recreation, changes in access to the area would affect a number of the setting indicators. As described in Sections 3.12 and 4.12, Transportation, numerous unclassified roads (wildcat roads) are present along each corridor. The proposed new roads for the project are spur roads off of existing roads, in the range of 500 to 1,000 ft (152 to 305 m) in length for each segment. Following construction, roads to fiber-optic splicing sites would be administratively closed using methods to include heavy pipe posts with a locked gate or chain, or a locked pipe barricade. All other roads, which would not be required for ongoing project maintenance, would have boulders, natural impediments, or trenches across the travelway for long-term closure, and would be revegetated at least in the initial portion of the roadway visible from connecting roads to effectively obscure signs of the roadway, in consultation with USFS. In addition to administrative and long-term closure of TEP's proposed roads, TEP is working with USFS to identify potential existing roads for obliteration and permanent closure, such that 1 mi (1.6 km) of existing road would be closed for every 1 mi (1.6 km) of proposed road used in the long-term maintenance of the proposed project. The roads to be closed by TEP would be preliminarily identified by USFS prior to issuance of a ROD, and identified as such within the ROD (URS 2003a). The USFS ROS impacts analysis that follows reflects the above information regarding project access.

4.1.2.1 *Western Corridor*

This section describes the potential impacts of the Western Corridor on recreational resources, within the framework of the ROS setting indicators.

Western Corridor Roaded Natural Area. The impacts of the proposed project on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–3. The table shows that all of the predicted setting indicator impacts are compatible with the Roaded Natural Area classification, except for Facilities and Site Management, which would have changes introduced by the proposed project that are inconsistent with the current area classification.

Western Corridor Roaded Modified Area. The impacts of the proposed project on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–4. This table shows that the predicted setting indicator impacts for Remoteness is inconsistent with the current Roaded Modified Area classification. The Facilities and Site Management and Naturalness impacts from the proposed project would be unacceptable within the current Roaded Modified classification.

Table 4.1–3. Impacts to Setting Indicators in Roaded Natural Areas in the Western Corridor.

ROS Setting Indicator	Impact of the Western Corridor	Change Compatible with ROS Class?
Access	Permanent access roads would be closed to public access; nonetheless, some increase in foot and all-terrain vehicle traffic may occur.	Yes (Normal)
Remoteness	Where visible, the proposed project would be evidence of human activity, thus decreasing Remoteness.	Yes (Normal)
Naturalness	Project towers, transmission lines, and roads would impact Scenic Integrity.	Yes (Normal)
Facilities and Site Management	Project towers and transmission lines would introduce synthetic materials.	No (Inconsistent)
Social Encounters	Would remain moderate to high.	Yes (Normal)
Visitor Impacts	Subtle site hardening would occur on new access roads.	Yes (Normal)
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area.

Table 4.1–4. Impacts to Setting Indicators in Roaded Modified Areas in the Western Corridor.

ROS Setting Indicator	Impact of the Western Corridor	Change Compatible with ROS Class?
Access	Permanent access roads would be closed to public access; nonetheless, some increase in foot and all-terrain vehicle traffic may occur.	Yes (Normal)
Remoteness	Would be evidence of human activity where visible between Ruby Road and the Pajarita Wilderness, thus decreasing Remoteness.	No (Inconsistent)
Naturalness	Would decrease from high to very low where visible along Ruby Road.	No (Unacceptable)
Facilities and Site Management	Project towers and transmission lines would introduce synthetic materials.	No (Unacceptable)
Social Encounters	Minor increase based on limited new roads for recreationalists.	Yes (Normal)
Visitor Impacts	Impacts or visitor use would not change.	NC
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area.

Western Corridor Semi-Primitive Motorized Area. The impacts of the proposed project on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–5. This table shows that the predicted setting indicator impacts for Remoteness and Naturalness are not consistent with the current Semi-Primitive Motorized Area classification. Retaining access roads in addition to those leading to fiber-optic splicing sites would decrease the Naturalness to unacceptable. The Facilities and Site Management impacts are unacceptable within the current classification of the area.

Table 4.1–5. Impacts to Setting Indicators in Semi-Primitive Motorized Areas in the Western Corridor.

ROS Setting Indicator	Impact of the Western Corridor	Change Compatible with ROS Class?
Access	Permanent access roads would be closed to public access; nonetheless, some increase in foot and all-terrain vehicle traffic may occur.	Yes (Normal)
Remoteness	Would introduce sights and occasional sounds (maintenance crews) of human activity in the immediate area of some recreationalists, thus decreasing Remoteness.	No (Inconsistent)
Naturalness	Would decrease from very high to moderate and low with minimum access roads, or to moderate, low, and very low with full access roads.	No (Inconsistent) for limited access, No (Unacceptable) for full access
Facilities and Site Management	Project towers and transmission lines would introduce synthetic materials.	No (Unacceptable)
Social Encounters	May slightly increase along tower access roads.	Yes (Normal)
Visitor Impacts	Impacts of visitor use would not change.	NC
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area.

Western Corridor Semi-Primitive Non-Motorized Area. The Western Corridor passes within 0.25 mi (0.41 km) of a Semi-Primitive Non-Motorized Area. Semi-Primitive Non-Motorized settings are usually at least 0.5 mile (0.8 km) away from all roads, and thus the potential impacts to this setting have been analyzed. The potential impacts on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–6. This table shows that the predicted setting indicator impact for Remoteness is inconsistent with the current Semi-Primitive Non-Motorized Area classification.

4.1.2.2 Central Corridor

This section describes the potential impacts of the Central Corridor on recreational resources, within the framework of the ROS setting indicators. As evidenced in the analysis below, the ROS impacts of the Central Corridor are reduced because of the existing access to the EPNG pipeline ROW that provides access to the Central Corridor, thus limiting the need for new project access. For each ROS setting, the potential impact to the setting indicators and recreational uses are described below:

Central Corridor Roaded Natural Area. The impacts of the proposed project on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–7. The table shows that all of the predicted setting indicator impacts are compatible with the Roaded Natural Area classification, except for Facilities and Site Management, which would have inconsistent changes introduced by the proposed project, and Naturalness, which would have unacceptable changes introduced by the proposed project.

Table 4.1–6. Impacts to Setting Indicators in Semi-Primitive Non-Motorized Areas Near the Western Corridor.

ROS Setting Indicator	Impact of the Western Corridor	Change Compatible with ROS Class?
Access	Construction and maintenance roads to support towers within 0.5 mi of the SPNM Area could increase foot traffic off the roads into the SPNM Area.	Yes (Normal)
Remoteness	Would introduce sights and occasional sounds (maintenance crews) of human activity within 0.5 mi of the SPNM Area, thus decreasing Remoteness.	No (Inconsistent)
Naturalness	Would remain very high.	NC
Facilities and Site Management	No new materials would be introduced into SPNM Areas.	NC
Social Encounters	May slightly increase to the extent that increased footpaths develop into the SPNM Area.	Yes (Normal)
Visitor Impacts	No site hardening would occur from occasionally used footpaths in the SPNM Area.	NC
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area; SPNM = Semi-Primitive Non-Motorized.

Central Corridor Semi-Primitive Motorized Areas. The impacts of the proposed project on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–8. This table shows that the predicted setting indicator impacts are compatible with the Semi-Primitive Motorized Area classification, except for Remoteness and Naturalness, which would have inconsistent changes, and Facilities and Site Management, which would have unacceptable changes introduced by the proposed project.

Central Corridor Semi-Primitive Non-Motorized Area. The Central Corridor passes within 0.25 mi (0.41 km) of a Semi-Primitive Non-Motorized Area. Semi-Primitive Non-Motorized settings are usually at least 0.5 mi (0.8 km) away from all roads, and thus the potential impacts to this setting have been analyzed. The potential impacts on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–9. This table shows that all of the predicted setting indicator impacts are compatible with the Semi-Primitive Non-Motorized Area classification, except for Remoteness, which would have changes introduced by the proposed project that are inconsistent with the current area classification.

Table 4.1–7. Impacts to Setting Indicators in Roded Natural Areas in the Central Corridor.

ROS Setting Indicator	Impact of the Central Corridor	Change Compatible with ROS Class?
Access	Permanent access roads would be closed to public access; nonetheless, some increase in foot and all-terrain vehicle traffic may occur.	Yes (Normal)
Remoteness	Where visible, the proposed project would be evidence of human activity, thus decreasing Remoteness.	Yes (Normal)
Naturalness	Would change to very low at the Ruby Road crossing.	No (Unacceptable)
Facilities and Site Management	Project towers and transmission lines would introduce synthetic materials.	No (Inconsistent)
Social Encounters	Would remain moderate to high.	Yes (Normal)
Visitor Impacts	Subtle site hardening would occur on new access roads.	Yes (Normal)
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area.

Table 4.1–8. Impacts to Setting Indicators in Semi-Primitive Motorized Areas in the Central Corridor.

ROS Setting Indicator	Impact of the Central Corridor	Change Compatible with ROS Class?
Access	Permanent access roads would be closed to public access; nonetheless, some increase in foot and all-terrain vehicle traffic may occur.	Yes (Normal)
Remoteness	Project would introduce nearby sights and occasional sounds (maintenance crews) of human activity.	No (Inconsistent)
Naturalness	Would decrease to moderate and low.	No (Inconsistent)
Facilities and Site Management	Project towers and transmission lines would introduce synthetic materials.	No (Unacceptable)
Social Encounters	Increase in social encounters limited to occasional maintenance crews.	NC
Visitor Impacts	Impacts of visitor use would not change.	NC
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area.

Table 4.1–9. Impacts to Setting Indicators in Semi-Primitive Non-Motorized Areas Near the Central Corridor.

ROS Setting Indicator	Impact of the Central Corridor	Change Compatible with ROS Class?
Access	Given existing access to the pipeline ROW, few new project access roads would be needed in the brief section within 0.5 mi of the SPNM Area, resulting in few new foot trails into the SPNM Area.	Yes (Normal)
Remoteness	Would introduce sights and occasional sounds (maintenance crews) of human activity within 0.5 mi of the SPNM Area, thus decreasing Remoteness.	No (Inconsistent)
Naturalness	Would remain very high.	NC
Facilities and Site Management	No new materials would be introduced into SPNM Areas.	NC
Social Encounters	Limited likelihood of new footpaths into the SPNM Area.	Yes (Normal)
Visitor Impacts	No site hardening would occur from limited new footpaths into the SPNM Area.	NC
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area; SPNM = Semi-Primitive Non-Motorized.

4.1.2.3 Crossover Corridor

This section describes the potential impacts of the Crossover Corridor on recreational resources, within the framework of the ROS setting indicators. For each ROS setting, the potential impact to the setting indicators and recreational uses as follows:

Crossover Corridor Roaded Natural Area. The impacts of the Crossover Corridor on setting indicators upon crossing Ruby Road through the Roaded Natural Area would be the same as described above for the Central Corridor's crossing of Ruby Road. Table 4.1–7 shows that all of the predicted setting indicator impacts are compatible with the Roaded Natural Area classification, except for Facilities and Site Management, which would have inconsistent changes introduced by the proposed project and Naturalness which would have unacceptable changes introduced by the proposed project.

Crossover Corridor Semi-Primitive Motorized Areas. The impacts of the proposed project on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–10. The predicted setting indicator impacts for Remoteness and Naturalness are inconsistent, and the impacts for Facilities and Site Management are unacceptable within the current Semi-Primitive Motorized Area classification.

Crossover Corridor Semi-Primitive Non-Motorized Area. The Crossover Corridor and its potential new access roads pass through Semi-Primitive Non-Motorized land in Peck Canyon. The potential impacts on setting indicators and the compatibility of this change with the existing ROS class are described in Table 4.1–11. This table shows that the predicted setting indicator impacts for Remoteness, Naturalness, and Facilities and Site Management are unacceptable for the current Semi-Primitive Non-Motorized Area classification for the current Semi-Primitive Non-Motorized Area classification.

Table 4.1–10. Impacts to Setting Indicators in Semi-Primitive Motorized Areas in the Crossover Corridor.

ROS Setting Indicator	Impact of the Crossover Corridor	Change Compatible with ROS Class?
Access	Permanent access roads would be closed to public access; nonetheless, some increase in foot and all-terrain vehicle traffic may occur.	Yes (Normal)
Remoteness	Project would introduce nearby sights and occasional sounds (maintenance crews) of human activity.	No (Inconsistent)
Naturalness	Would decrease to moderate to low.	No (Inconsistent)
Facilities and Site Management	Project towers and transmission lines would introduce synthetic materials.	No (Unacceptable)
Social Encounters	Increase in social encounters limited to occasional maintenance crews.	NC
Visitor Impacts	Impacts of visitor use would not change.	NC
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area.

Table 4.1–11. Impacts to Setting Indicators in Semi-Primitive Non-Motorized Areas in the Crossover Corridor.

ROS Setting Indicator	Impact of the Crossover Corridor	Change Compatible with ROS Class?
Access	Helicopter access would be used.	NC
Remoteness	Would introduce nearby sights and occasional sounds (maintenance crews) of human activity in and around Peck Canyon.	No (Unacceptable)
Naturalness	Would decrease from very high to very low.	No (Unacceptable)
Facilities and Site Management	Project towers and transmission lines would introduce synthetic materials.	No (Unacceptable)
Social Encounters	Limited likelihood of new footpaths into the SPNM Area.	Yes (Normal)
Visitor Impacts	No change.	NC
Visitor Management	No additional visitor management would occur.	NC

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area; SPNM = Semi-Primitive Non-Motorized.

4.1.2.4 ROS Impacts Summary for Western, Central, and Crossover Corridors

Table 4.1–12 summarizes the impact of each corridor on the setting indicators. For the Access, Social Encounters, Visitor Impacts, and Visitor Management setting indicators, the proposed project in any corridor would be compatible with the current ROS area classification. Because permanent access roads constructed for the project would be gated or otherwise blocked so they are not open for public use, the recreational access to the area, and associated social encounters and impacts from visitors would not be significantly affected by the proposed project, and additional visitor management would not be necessary.

Table 4.1–12. ROS Impacts Summary for the Western, Central, and Crossover Corridors on the Coronado National Forest.

Setting Indicator	Western Corridor (30.0 mi on CNF)				Central Corridor (15.1 mi on CNF)*			Crossover Corridor (29.7 mi on CNF)*		
	Roaded Natural (1.7 mi)	Roaded Modified (7.0 mi)	Semi-Primitive Motorized (21.3 mi)	Semi-Primitive Non-Motorized (passes within 0.5 mi of area)	Roaded Natural (1.1 mi)	Semi-Primitive Motorized (14 mi)	Semi-Primitive Non-Motorized (passes within 0.5 mi of area)	Roaded Natural (1.1 mi)	Semi-Primitive Motorized (25.2 mi)	Semi-Primitive Non-Motorized (3.3 mi)
Access	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	NC
Remoteness	Compatible	Inconsistent	Inconsistent	Inconsistent	Compatible	Inconsistent	Inconsistent	Compatible	Inconsistent	Unacceptable
Naturalness	Compatible	Unacceptable	Inconsistent to Unacceptable	NC	Unacceptable	Inconsistent	NC	Unacceptable	Inconsistent	Unacceptable
Facilities and Site Management	Inconsistent	Unacceptable	Unacceptable	NC	Inconsistent	Unacceptable	NC	Inconsistent	Unacceptable	Unacceptable
Social Encounters	Compatible	Compatible	Compatible	Compatible	Compatible	NC	Compatible	Compatible	NC	NC
Visitor Impacts	Compatible	NC	NC	NC	Compatible	NC	NC	Compatible	NC	NC
Visitor Management	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

*Central and Crossover Corridors do not go through the Roaded Modified area.

NC = No significant change to the setting indicator as a result of the proposed project within this ROS Area; CNF = Coronado National Forest. There would be no change to any setting indicators under the No Action Alternative.

For the Naturalness, Remoteness, and Facilities and Site Management setting indicators, most or all of the proposed project in any corridor would be either inconsistent or unacceptable within the current ROS area classification. Identifying the differences between corridors in terms of changes that fall into the unacceptable range, as outlined below, helps distinguish the ROS impacts among alternatives. In addition, the total mileage of each alternative on the Coronado National Forest (Western Corridor: 30.0 mi [48.2 km], Central Corridor: 15.1 mi [24.3 km], Crossover Corridor: 29.7 mi [47.8 km]) is a factor in the magnitude of the ROS impacts.

The Western Corridor would have an unacceptable impact on Naturalness where it runs adjacent to Ruby Road for an estimated 6 mi (10 km) southwest of the Atascosa Mountains. Naturalness would become very low in this section of the Western Corridor.

The Crossover Corridor would have a higher impact on Remoteness than the other alternatives, as an estimated 3.3 mi (5.3 km) of the Crossover Corridor at Peck Canyon would have unacceptable impacts on Remoteness. The Crossover Corridor would also have an unacceptable impact on Naturalness within Peck Canyon, and for a brief stretch as it crosses Ruby Road then continues over nearby ridgetops.

The Central Corridor would have an unacceptable impact on Naturalness where it crosses Ruby Road, in the same location as the Crossover Corridor.

The following language was provided by USFS (USFS 2002c). The Central Corridor would minimize the total mileage on national forest land and would impact three setting indicators (Remoteness, Naturalness, and Facilities and Site Management) in an inconsistent or unacceptable way. The Western and Crossover Corridors would impact the same three setting indicators on national forest land as the Central Corridor. The Crossover Corridor is the only alternative with major impacts to a Semi-Primitive Non-Motorized area (an estimated 3 mi [5 km] through the Peck Canyon IRA). The Western and Crossover Corridors would have higher total mileage on national forest lands than the Central Corridor. Accordingly, the Western and Crossover Corridors would have greater overall impacts to ROS settings on the Coronado National Forest than the Central Corridor.

4.1.2.5 *No Action Alternative*

Under the No Action Alternative, TEP would not build the proposed transmission line and associated facilities as proposed in this EIS. There would be no impacts from the proposed project on recreation. Current recreation activities described in Section 3.1.2, Recreation, would continue.